

## July 2010 - Brendon Cameron (danger)

Congratulations to Brendon Cameron on winning TOTM for July 2010 with his Deltec Driven LED Reef.

Brendon is known as danger on the RTAW Forums and you can read more about him tank in his Tank Journal .

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### Introduction

I started, like many people, keeping fresh water fish around 11 years ago and my fascination with the ocean, and its colours, quickly took over. My first marine tank was setup in 2002 and was a 3 footer serviced by a queen hang on skimmer. It was intended to be "fish only" but soon the tank was stocked with a few softies and LPS. At that time most of my advice and information came from local fish stores and I was confident that I was doing things right. Ironically, it was at Coburg aquarium where I first heard of MASA and it opened my eyes to the extent of marine aquariums. My previous tank, like the present, was also a 4ft. It was a good starting point and I learnt a lot along the way. Challenges in controlling and maintaining things like water changes, fresh water top up, and heat retention and relinquishment all provided the basis of the current tank and its automated systems. Despite being in its infancy, the tank has grown consistently over the last year and has proved very resilient towards things like higher than ideal water temperatures in the summer and three significant changes in lighting.

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### The Tank

The display tank is 48" x 24" x 24" with a custom centre weir that employs the silent durso method, being a 25mm siphon, with 40mm backup durso. The estimated system capacity is around 550ltrs. The two main reasons I chose this size tank were budget and space. When initially choosing the specs, I wanted a tank that could be fully automated and use high-end equipment. At the time, anything over a 4ft tank would not have been possible. Wow, I started this tank in October 2006, and after numerous setbacks with the renovations of our house it finally went wet mid last year. It is now over 4 years in the making! My stand was a huge part of this tank. After looking for ideas for a contemporary stand and coming up empty, I decided to design my own. Built by myself and finished by others, it was constructed using a solid pine frame and lined with solid Vic Ash. The cabinet was later sealed white on the inside and stained "Wenge" on the outside. I was very excited when it was finally finished. It was almost a year after that that the tank itself was finished. My sump is acrylic custom-made at 750mm long x 350mm wide x 450mm high. It houses my protein skimmer, return pump and refuge. It is divided into 3 separate chambers. To help eliminate micro bubbles, 3 baffles divide the protein skimmer chamber from the return chamber. The refuge is fed via a T from the main return line so I can control the flow.

### Filtration

My filtration system could be considered by some to be somewhat over complicated for a tank of this size. Predominately catered for by live rock, the shallow sand bed and protein skimming, I also utilise a Deltec FR509 fluidised reactor running Rowaphos and carbon, and a Deltec NFP509 nitrate reactor. The latter is fully automated by way of a Redox probe controlled by an Aquatronica. A liquid carbon based food (diluted Vodka) is dosed automatically three times daily and water flow is controlled via a solenoid valve. As the bacteria feeds/grows and the ORP drops within the reactor, the solenoid opens allowing more water inside, raising the ORP. This balancing act continues and controls the nitrate. I have a Deltec APF-600 Protein skimmer and it's doing a great job!

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### Water flow

My main source of water movement in the display tank comes from: 2 Tunze 6105 Stream 2s at 13,000ltr each; and 2 Tunze 6055 NanoStreams at 5500ltr each. Total turnover is just over 70x an hour. Water movement in the sump is provided by: 2 Tunze 6055 Nano Streams at 5500ltr each

### Lighting

Originally, I used an Arcadia series 3 metal halide 2x250w. After significant heat problems I changed my lighting over and it now consists of an EcoLamps KR-92 LED pendant. 9:00am - Dawn - blue LEDs only 12:00pm - Daytime - high powered white and blue LEDs 5:00pm - Dusk - blue LEDs only 9:00pm - Moonlight only

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### Other equipment

There is an incredible amount of equipment on this 4ft tank that when I list them all it sounds excessive for such a small tank. Further to the equipment I've already listed above I have: Deltec PF-601s Calcium Reactor; Deltec KM-500 Kalk Stirrer; Sander Ozoniser 50; Tunze 3155 Osmolator, automatic fresh water top-up; Tunze 8555 &ndash; Controls the

RO-DI unit, automatically refilling a 20ltr bucket from the mains for fresh water top-ups; Aquatronica Control Unit with the following sensors and probes; 4 temperature sensors; 2 water level sensors; Ethernet; 2 pH probes; 2 Redox Probes; Density Probe; and Eheim 1240 Return Pump.  
Water parameters?

Like all SPS tanks I try to keep stable parameters. When last tested they consisted of: Salinity: 35 ppt (Density Probe confirmed by Refractometer) Calcium: 430 ppm (Salifert) Alkalinity: 10.90 dKH (Salifert) Magnesium: 1350 ppm (Salifert) Nitrate: undetectable (Salifert) Phosphate: 0.03 (Hanna Colorimeter)  
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#### Additives and conditioners

I'm currently using a couple Zeovit additives. Coral Snow dosed 4ml once every other day. Coral Vitalizer dosed 10ml once every other day.  
Fish

I originally set out to keep my bioload as low as possible but my SPS looked washed out and very pale. I decided to increase my fish stock to help. The tank currently consists of: Neocirrhitis armatus - Flame Hawk Centropyge bispinosa - Coral Beauty Angel Centropyge loriculus - Flame Angel Holanthias borbonius - Deep Water Blotched Anethias Gobiodon okinawae - Yellow Clown Goby Amblygobius rainfordi - Rainford Goby Bodianus bimaculatus - Yellow Candy Hogfish Pseudocheilinus hexataenia - Sixline Wrasse Zebrasoma xanthurum - Purple Tang Macropharyngodon meleagris - Leopard Wrasse Amphiprion melanopus - Cinnamon Clownfish Gramma loreto - Royal Gramma  
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#### Coral

A large amount of SPS ranging from various types of Acropora sp, Montipora sp, Pocillopora sp, and a few LPS. At last count there were over 75 SPS corals.  
Inverts

Cerith Snails; Trochus Snails; 3 Strombus Snails; 2 Peppermint Shrimp; and 1 hitchhiker Mantis Shrimp  
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#### Maintenance

My maintenance schedule is generally checking the automated systems are in place and working like they should. Manually, on a daily basis, I feed the fish, check the flow through the calcium and nitrate reactors, and have a general look over the remaining equipment. Automatically, a 1% water change is conducted each day via a dual head peristaltic pump. On a weekly basis, I clean the protein skimmer cup, clean the glass, stir the sand bed, dose the appropriate Zeovit additives, and test my Alk, Calc, and Phosphate to ensure they are within an acceptable range. Monthly, I replace the Rowaphos and carbon and top up the kalk reactor. Every 6 months or so I check and clean all the pumps with an acidic cleaner to strip them of any calcium deposits and refill my reactor if needed.

#### Acknowledgments

Firstly, I'd like to thank the people who put in a huge effort coordinating and running MASA. Without them, I doubt if it could survive and I would still likely be running my queen protein skimmer. I really appreciate an award like this with so many great tanks coming through over the last couple of years. I hope that the things that I've been able to achieve will inspire others to go above and beyond mine and other "tank of the month" winners. It's these great tanks that make a difference.

I would also like to thank the other members of RTAW that have traded and sold frags. You know who you are, without you my tank would be bare and my wallet too!  
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